

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A self-aligning roller bearing comprising:
 - an inner ring having a double-row raceway;
 - an outer ring having a double-row integral and spherical raceway;
 - a plurality of rollers incorporated between the inner ring raceway and the outer ring raceway on a double-row basis; and
 - a retainer for rotatably retaining the rollers, wherein:
 - processing marks crossing each other are formed on a raceway surface of the spherical raceway of the outer ring;
 - the processing marks are ~~cut~~ substantially straightly cut at a predetermined crossing angle to the circumferential direction of the raceway surface;~~, and~~
 - the surface roughness of the raceway surface of the outer ring is in the range from 0.15 to 0.4 μmRa in terms of average roughness at the centerline thereof in both of the radial direction is substantially constant in the axial direction and the circumferential direction thereof at least in a part at portions in contact with the rollers,
 - a difference in surface roughness between measurements in the axial direction and the circumferential direction is 0.1 μmRa or less,
 - skewness (Rsk) is -0.4 or less, and
 - the roughness of a raceway surface of the inner ring is 0.1 μmRa or less in terms of average roughness at the centerline in the axial direction thereof.

2. (original): The self-aligning roller bearing according to Claim 1, wherein the processing marks are cut at a crossing angle in the range from 90° to 150° to the circumferential direction of the raceway surface.

3. (cancelled).

4. (withdrawn): A method of processing a self-aligning roller bearing, comprising the step of:

forming processing marks crossing each other on a raceway surface of an outer ring of the self-aligning roller bearing using a super-finishing process.

5. (withdrawn): The method of processing a self-aligning roller bearing according to Claim 4, wherein

the processing marks crossing each other are cut at a crossing angle in the range from 90° to 150° to the circumferential direction of the raceway surface.

6. (withdrawn): The method of processing a self-aligning roller bearing according to Claim 4, wherein

the step of forming processing marks includes the steps of:
rotating the outer ring about a center axis thereof,
inserting a grindstone in the outer ring, and

swinging the grindstone along the curvature of the raceway surface, while pressing the raceway surface with the same.